



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,385	07/02/2003	Kazushige Hotta	1324.68135	3186

7590 01/05/2006

Patrick G. Burns, Esq.  
GREER, BURNS & CRAIN, LTD.  
Suite 2500  
300 South Wacker Dr.  
Chicago, IL 60606

EXAMINER

HU, SHOUXIANG

ART UNIT PAPER NUMBER

2811

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/612,385	<b>Applicant(s)</b> HOTTA ET AL.	
	<b>Examiner</b> Shouxiang Hu	<b>Art Unit</b> 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, 18-20, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 21 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 1-15, 18-20, 22 and 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, in view of the previous office action and the 12-10-2004 amendment.

Accordingly, claims 1-26 are pending in this application; and claims 16, 17, 21 and 24-26 remain active in this Office action.

### ***Claim Objections***

2. Claims 16, 17, 21 and 24-26 are objected to because of the following informalities and/or defects:

Claim 16 recites the subject matters of “substantially”; but the original specification lack an adequate description about to what degrees of coverage respectively by the recited first and second insulating films the cited “covering” can be regarded as being “substantially”.

In claim 16, the term of “of the channel” should read as: --of the channel region--

Claims 21 and 24 are further objected to, as claim 21 recites the subject matters of a laser light, but fails to clarify what is the relationship between the laser light and the final structure of the claimed invention, and in which stage and on what intermediate structure such laser light was applied. Otherwise, it leaves the claimed invention indefinite, as a laser light for different purposes with different strengths and wavelengths

Art Unit: 2811

applied at different stages may result in different effects on the final structure of the claimed invention. For example, a laser light beam can be applied to a TFT-based device for a variety of different purposes (such as for: annealing; dopant activation; crystallization; backlighting; mask alignment, among others) that may require different wavelengths, to be along different incident directions, and to be at different stages. All of these may result in different effects on the final structure of the claimed invention, as the claimed invention is directed to a device, i.e., a functionable final structure, and the recited laser may not be in the final structure. Thus, the claimed invention may not be definitely defined without further clarifying/defining the feature(s) and/or effects of the recited laser in the claims, regardless whether or not the specification provides some features for a laser, given that the disclosure does not exclude any other applications for a laser. And, it is further noted that, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, 17, 25 and 26, as being supported by the elected species and as being best understood in view of the claim objections, are rejected under 35 U.S.C. 102(b) as being anticipated by Takemura (US 5,719,065).

Takemura discloses active matrix addressed display (AMAD) device having a thin film transistor (TFT) device with a first conductive type TFT (Fig. 5A; TFT1, or TFT2 or TFT3), comprising: a substrate underlying a semiconductor layer including source and drain regions (regions that are in contact with electrodes 503) and low density impurity regions (portions of the regions y or y' in the semiconductor layer that are under the gate insulator layer) with a channel region therebetween; a first insulation film (the gate insulator layer, similar to layer 104' in Fig. 3) formed on and covering substantially all the surfaces of the channel region and the low density impurity regions; a gate electrode; and a second insulation film (the insulating film that is in direct contact with the gate, similar to the insulating film 108 in Figs. 3 and/or 8), which covers substantially all of the surface of the first insulating film on the low density impurity regions, given that the second insulating film also covers the substantially large portion of the surface of the first insulating film that is directly under the gate electrode therein, but not formed on the source/drain regions.

Regarding claims 17, 25 and 26, it is noted that all the recited features in these claims are naturally commonly comprised in an AMAD such as the one of Takemura (See Figs. 5 and 10).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21 and 24, as being supported by the elected species and as being best understood in view of the claim objections, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura.

The disclosure of Takemura is discussed as applied to claims 16, 17, 25 and 26 above.

Although Takemura does not expressly disclose that the second insulation layer can have such an absolute thickness of about 80nm (as shown in the elected species) or an absolute thickness that may be implicated in these claims, it is noted that the thickness of such an insulation layer is an art-known and result-oriented parameter of importance subject to routine experimentation and optimization.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device of Takemura with the second insulation layer having such an absolute thickness, so that a TFT-based device with optimized process conditions and/or with optimized performance would be obtained. Furthermore, it is noted that any potentially implicated limitations associated with the application of the recited laser during the making of the recited device are hereby treated as process limitations as the claimed invention is directed to a device that has to be a functionable

Art Unit: 2811

final structure and the recited laser may not be necessarily included in such a final structure. And, such process limitations would not carry patentable weight in this claim drawing to a structure, because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

### ***Response to Arguments***

Applicant's arguments filed on November 02, 2005 have been fully considered but they are not persuasive.

Applicant alleges that Takemura does not anticipate the claimed invention of claim 16. In response, it is noted that the thin film transistor (TFT) device shown in Fig. 5A of Takemura is readable as the claimed invention as defined in claim 16, because: portions of the regions y or y' in the semiconductor layer are readable as the recited low density impurity regions; the gate insulator layer shown in Fig. 5A (similar to layer 104' in Fig. 3) of Takemura is readable as the recited first insulating film as it is formed on and covering substantially all the surfaces of the channel region and the low density impurity regions; and, the capping layer shown in Fig. 5A (between the gate electrode and layer 114 in Fig. 5A; similar to the insulating film 108 in Figs. 3 and/or 8) is readable as the recited second insulating film as it covers substantially all of the surface of the first insulating film on the low density impurity regions, given that the second insulating film also covers the substantially large portion of the surface of the first insulating film that is directly under the gate electrode therein, but not on the source/drain regions, regardless whichever areas the layer 104 originally covers.

Responses to other arguments have been fully incorporated into the claim objections and rejections set forth above in this office action.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

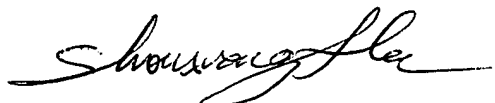


Art Unit: 2811

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH  
January 3, 2006

A handwritten signature in black ink, appearing to read 'Shouxiang Hu', with a stylized, flowing script.

**SHOUXIANG HU**  
**PRIMARY EXAMINER**